

U.S. Serial No. 10/735,062

U.S. Docket No. 1232-5237

Amendments to the Claims

For the Examiner's convenience, this Request for Reconsideration includes the text of all claims under examination.

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (Previously presented): A method of manufacturing a semiconductor device comprising:

a step of preparing a structure including a plurality of cylinder-shaped members and a region surrounding the cylinder-shaped members;

a step of forming a porous body having cylinder-shaped pores by removing the cylinder-shaped members from the structure; and

a step of introducing a material into the pores of the porous body and forming p-n or p-i-n junctions.

2. (Previously presented): A method according to claim 1, wherein said cylinder-shaped members formed so as to contain a first material are surrounded by said region formed so as to contain a second material in said structure and the structure contains the second material at a ratio of not smaller than 20 atomic% and not greater than 70 atomic% relative to the total quantity of the first and second materials.

3.-14. (Cancelled)

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15. (Previously presented): A method of manufacturing a semiconductor device array comprising:

- (a) a step of arranging an electrode on a substrate;
- (b) a step of forming a structure including a matrix member containing a second ingredient capable of forming a eutectic crystal with a first ingredient and cylinder-shaped regions containing the first ingredient and dispersed in the matrix member on said substrate;
- (c) a step of removing said cylinder-shaped regions;
- (d) a step of forming semiconductor regions, each having at least a p-n junction or a p-i-n junction, in the cylinder-shaped pores obtained as a result of the above removing step;
- (e) a step of forming another electrode on the top of said structure in which said semiconductor regions are formed.

16. (Previously presented): A method according to claim 15, wherein etching is used for said removing step.

17. (Previously presented): A method according to claim 15, further comprising a step of chemically treating the matrix member containing said second ingredient after the step of removing said cylinder-shaped regions.

18. (Previously presented): A method according to claim 17, wherein said chemical treatment is oxidation.

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19. (Previously presented) A method according to claim 15, further comprising a step of increasing the pore diameter of the cylinder-shaped pores after the step of removing said cylinder-shaped regions.

20. (Previously presented): A method according to claim 15, further comprising a step of removing said matrix member surrounding said cylinder-shaped regions after the step of forming another electrode on the top of said structure.

21. (Previously presented): A method according to claim 15, wherein a chemical vapor deposition method is used for said step of forming semiconductor regions.

22. (Previously presented): A method according to claim 15, wherein said step of forming semiconductor regions is performed by means of a catalytic reaction after forming a catalyst at the bottoms of said pores.